

WHAT IS CLAIMED IS:

1. A combination desktop currency denominating machine and currency dispenser comprising:
 - a currency denominating module comprising:
 - 5 an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
 - one or more output receptacles adapted to receive the currency bills after being processed;
 - 10 a denominating sensor adapted to acquire evaluation data from bills transported past the sensor;
 - a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating sensor, and to the one or more output receptacles at a rate of at least 400 bills per minute;
 - 15 a processor coupled to the denominating sensor and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being programmed to calculate the total value of the stack of currency bills received into the input receptacle when the evaluation data of each bill in the stack satisfactorily
 - 20 compares with the master denominating information at a rate of at least 400 bills per minute; and
 - a currency dispensing module comprising:
 - one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
 - 25 a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating sensor;
 - an interface adapted to receive information specifying the total value of currency to be dispensed;
 - 30 wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the specified total value of currency to be dispensed

and wherein using the evaluation data received from the denominating sensor the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified total value.

5 2 The combination desktop currency denominating machine and currency dispenser of claim 1 further comprising a housing, wherein the currency denominating module, the currency dispensing module, and the processor are contained within the housing.

10 3. The combination desktop currency denominating machine and currency dispenser of claim 2 wherein the effective footprint of the housing is less than about 1 ½ square feet.

4. A vertically arranged combination desktop currency denominating machine and currency dispenser comprising:
15 a currency denominating module adapted to receive a stack of currency bills to be denominated and to denominate the received currency bills, wherein a transport mechanism transports bills individually from an input receptacle adapted to receive the stack of currency bills to one or more output receptacles; and
20 a dispenser retaining section adapted to store currency bills to be dispensed to the one or more output receptacles during a dispensing operation, the retaining section comprising one or more dispensing receptacles, each dispensing receptacle adapted to hold bills having a common denomination, wherein the dispenser retainer section is positioned above the currency denominating module.

25 5. A currency processing system adapted to receive currency bills from a user, dispense bills to a user and denominate both bills received and bills dispensed, wherein the system comprises:

30 an input receptacle adapted to receive a stack of currency bills;
a dispensing receptacle adapted to contain a stack of currency bills to be dispensed;
an output receptacle positioned to receive currency bills, and positioned to be easily accessible to a user;

- a transport mechanism adapted to transport bills individually from the input receptacle to the output receptacle, and to transport bills individually from the dispensing receptacle to the output receptacle;
- 5 a sensor adapted to acquire evaluation data from bills being transported from the input receptacle and the dispensing receptacle to the output receptacle; and
- a processor coupled to the sensor adapted to perform a denomination evaluation of a bill based on the acquired evaluation data associated with the bill, whereby each bill received from a user may be subjected to a denomination test and each bill to be dispensed to a user may be subjected to a denomination test.
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6. The system of claim 5, comprising a plurality of dispensing receptacles, including the dispensing receptacle, wherein the dispensing receptacles are coupled to the transport mechanism upstream of the input receptacle.
- 15 7. A currency processing system comprising:
- a denominating module adapted to receive a stack of bills and to denominate the bills, wherein the denominating module comprises:
- a single input receptacle adapted to receive a stack of currency bills;
- one or more output receptacles positioned lower than the single input receptacle;
- a transport mechanism adapted to transport bills individually from the input receptacle to at least one of the one or more output receptacles;
- a sensor positioned lower than the input receptacle and adapted to acquire evaluation data from a bill being transported toward the one or more output receptacles; and
- a processor coupled to the sensor and adapted to perform a denomination test on a bill based on evaluation data associated with the bill; and
- wherein the processing system comprises a dispensing module comprising:
- two or more dispensing receptacles positioned higher than the input receptacle, each adapted to contain a stack of currency bills, and each coupled to the transport mechanism, wherein the transport mechanism transports bills individually

from the dispensing receptacles past the sensor to the one or more output receptacles, wherein

- the processor is adapted to determine a sum associated with a plurality of bills received in the input receptacle, and is adapted to determine a sum associated
5 with a plurality of bills dispensed from the two or more dispensing receptacles.

8. The system of claim 7, wherein the input receptacle is aft of the one or more output receptacles and the two or more dispensing receptacles are aft of the input receptacle.

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9. The system of claim 8, wherein the transport mechanism defines a transport path and the system comprises a width perpendicular to the transport path less than about 30 inches.

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10. The system of claim 8 further comprising a housing having a footprint of less than about 325 square inches.

11. The system of claim 8 further comprising a housing having a volume of less than about 12,000 cubic inches.

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12. A currency processing system for receiving a stack of currency bills from a user, for dispensing bills to a user, and for denominating both bills received and bills dispensed, wherein the system comprises:

an input receptacle for receiving the stack of bills;

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a single output receptacle for receiving processed bills, wherein the single output receptacle is spaced apart from the input receptacle and easily accessible to the user;

a transport mechanism adapted to transport bills individually from the input receptacle to the single output receptacle;

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a dispensing receptacle adapted to contain bills for dispensing;

a dispensing mechanism adapted to dispense bills individually from the dispensing receptacle to the transport mechanism for individual transport to the single output receptacle;

a sensor positioned relative to the transport mechanism to acquire evaluation data from each bill, in seriatim, as the bills are transported to the single output receptacle; and

5 a processor coupled to the sensor and adapted to determine denomination of a bill based on the evaluation data associated with the bill, whereby each bill transported to the single output receptacle may be denominated.

13. A currency processing system for receiving bills, dispensing bills, and denominating bills, wherein the system comprises:

- 10 an input receptacle for receiving bills;
- a single output receptacle spaced apart from the input receptacle and easily accessible to a user;
- a transport mechanism defining a transport path adapted to transport bills individually from the input receptacle to the single output receptacle wherein the
- 15 single output receptacle is downstream of the input receptacle;
- a first dispensing receptacle for containing bills;
- a second dispensing receptacle for containing bills;
- a first dispensing mechanism adapted to transport bills individually from the first dispensing receptacle to the transport mechanism, wherein the transport
- 20 mechanism then transports the bills to the single output receptacle;
- a second dispensing mechanism adapted to transport bills individually from the second dispensing receptacle to the transport mechanism, wherein the transport mechanism then transports the bills to the single output receptacle;
- a sensor adapted to acquire evaluation data associated with a bill wherein the
- 25 sensor is positioned along the transport path to acquire data associated with bills from the input receptacle and data associated with bills from the dispensing receptacles as the bills are transported to the output receptacle; and
- a processor coupled to the sensor and adapted to determine denomination of a bill based on the evaluation data associated with the bill, wherein both bills from the
- 30 dispensing receptacles and bills from the input receptacle are evaluated.

14. The system of claim 13, wherein the input receptacle is positioned downstream of the dispensing receptacles and the sensor is positioned downstream of the input receptacle.
- 5 15. The system of claim 13, comprising a securing device arranged to restrict access to the dispensing receptacles while allowing easy access to the input receptacle and single output receptacle.
16. A currency processing system for denominating currency bills, including stacks of currency bills, wherein the system comprises:
- 10 a first output receptacle for receiving processed bills;
- a second output receptacle for receiving processed bills;
- a transport mechanism adapted to create a stream of individual bills, wherein the second output receptacle is downstream of the first output receptacle;
- 15 an input receptacle for receiving a stack of currency bills, wherein the input receptacle is upstream of the first output receptacle and the transport mechanism is adapted to transport bills individually from the input receptacle toward the output receptacles;
- 20 a sensor upstream of the output receptacles adapted to acquire evaluation data for each bill, individually, as the bills flow toward the output receptacles;
- a first dispensing receptacle upstream of the sensor for supporting a supply of bills to be dispensed;
- 25 a first dispensing mechanism adapted to dispense bills from the first dispensing receptacle to the transport mechanism, wherein the transport mechanism causes the bills to flow individually within range of the sensor and toward the output receptacles; and
- 30 a processor coupled to the sensor and adapted to process evaluation data associated with a bill and generate a signal indicating either a denomination or an error, wherein the bill is transported to either the first output receptacle or the second output receptacle according to the signal.
17. A currency processing system comprising:
- an input receptacle adapted to hold a plurality of currency bills;

- a dispensing receptacle adapted to hold a plurality of bills;
a dispensing mechanism coupled to the dispensing receptacle and adapted to dispense bills;
an output receptacle for currency bills, wherein the output receptacle is spaced apart from the input receptacle and easily accessed;
- 5 a transport mechanism adapted to transport bills dispensed by the dispensing mechanism and bills from the input receptacle, wherein each bill is individually transported downstream by the mechanism to the output receptacle;
- a sensor positioned downstream of the input receptacle to acquire evaluation data from each bill, individually, as the bills are transported downstream to the output receptacle; and
- 10 a processor coupled to the sensor and adapted to generate a signal indicating either a denomination of a bill or an error, wherein the signal generated is based on the evaluation data associated with the bill.
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18. The system of claim 17, wherein the sensor is adapted to scan each bill.
19. The system of claim 17, wherein the sensor is adapted to image each bill, and the evaluation data comprises replication data.
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20. The system of claim 19, wherein the sensor is adapted to acquire replication data sufficient to replicate a full one-sided image of each bill.
21. The system of claim 19 wherein the sensor is adapted to acquire replication data sufficient to replicate a portion of an image of each bill.
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22. The system of claim 21, wherein the sensor is adapted to operate at about 400 to about 600 bills per minute.
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23. A currency processing system comprising:
a single output receptacle easily accessible and adapted to hold a plurality of bills;

- a transport mechanism adapted to transport bills individually toward the single output receptacle at a rate of at least about 800 bills per minute;
- an input receptacle spaced apart from the output receptacle, connected to the transport mechanism, easily accessible and adapted to hold a plurality of bills;
- 5 a dispensing receptacle spaced apart from the input receptacle and adapted to hold a plurality of bills;
- a dispensing mechanism connected to the dispensing receptacle and adapted to dispense bills toward the transport mechanism;
- 10 a sensor positioned to acquire evaluation data from each bill, individually, as the bills are transported toward the output receptacle; and
- a processor coupled to the sensor and adapted to perform a predetermined denomination analysis of evaluation data associated with a bill, wherein denomination of the bill may be determined based on the evaluation data of the bill.
- 15 24. The system of claim 23, wherein the transport mechanism is adapted to remove bills individually from the input receptacle.
25. The system of claim 23, comprising a barrier for restricting access to the dispensing receptacle.
- 20 26. The system of claim 23, wherein the input receptacle is positioned higher than the output receptacle.
27. The system of claim 26, wherein the dispensing receptacle is positioned higher
25 than the input receptacle.
28. The system of claim 23, comprising a guide coupling the dispensing mechanism to the transport mechanism, wherein the guide is adapted to guide bills moving from the dispensing mechanism to the transport mechanism.
- 30 29. A currency processing system kit comprising:
a denominating module comprising

- a single output receptacle easily accessible and adapted to hold a plurality of bills,
- an input receptacle easily accessible, spaced apart from the output receptacle, and adapted to hold a plurality of bills,
- 5 a transport mechanism connecting the input receptacle to the output receptacle and adapted to transport bills individually to the output receptacle,
- a sensor positioned to acquire evaluation data from each bill, individually, as the bills are transported toward the output receptacle,
- 10 a processor coupled to the sensor and adapted to determine denomination of a bill based on the evaluation data associated with the bill, and
- a user interface coupled to the processor and adapted to receive from a user a currency amount to be dispensed to the output receptacle and adapted to output to the user a currency total associated with bills put in the input receptacle; and the kit further comprising
- 15 a dispenser module comprising
- a dispenser receptacle adapted to hold a plurality of bills, and
- a dispenser mechanism coupled to the dispenser receptacle, wherein the dispenser mechanism is adapted to be coupled to the user interface and adapted to dispense bills based on the currency total received by the user interface.
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30. A denomination module for a currency system, wherein the module comprises:
- one or more output receptacles easily accessible and adapted to hold a plurality of bills;
- 25 an input receptacle easily accessible, spaced apart from the output receptacle, and adapted to hold a plurality of bills;
- a transport mechanism connecting the input receptacle to the output receptacle and adapted to transport bills individually from both the input receptacle and a dispensing module to the output receptacle, wherein the transport mechanism is adapted to be coupled to a dispensing module;
- 30 a sensor positioned to acquire evaluation data for bill, individually, as the bills are transported toward the output receptacle, wherein the transport mechanism is adapted to be coupled to a dispensing module;

a processor coupled to the sensor and adapted to denominate a bill based on the evaluation data associated with the bill; and

- 5 a user interface coupled to the processor and adapted to output to a user a currency total associated with a stack of bills put in the input receptacle wherein the user interface is also adapted to receive from a user a currency total associated with a plurality of bills to be dispensed to the one or more output receptacles based on the currency total.

31. The denomination module of claim 30, wherein the processor is adapted to
10 determine one or more bill-quantities for one or more predetermined bill denominations, wherein the determination of bill-quantities is based on the currency total received from the user.

32. A dispensing module adapted for use in a currency system comprising a
15 denomination module, wherein the denomination module comprises a transport mechanism adapted to transport bills individually toward an output receptacle, a sensor positioned to acquire evaluation data from bills, individually, as the bills are transported toward the output receptacle, a processor coupled to the sensor and adapted to denominate a bill based on evaluation data associated with the bill, and a
20 user interface adapted to receive from a user a currency total to be dispensed to a user, and wherein the dispensing module comprises:

- a dispensing receptacle adapted to hold a plurality of bills;
a dispensing mechanism connected to the dispensing receptacle and adapted to dispense bills, individually, from the dispensing receptacle at a rate of at least 800
25 bills per minute, and adapted to be coupled to the user interface to dispense bills based on the currency total received by the user interface and further adapted to be coupled to the transport mechanism.

33. The dispensing module of claim 32, comprising a guide for guiding bills from
30 the dispensing mechanism to the transport mechanism, wherein the guide is adapted to couple the dispensing mechanism and the denomination module, and the guide has a predetermined configuration.

34. A combination desktop currency denominating machine and currency dispenser comprising:
- a currency denominating module comprising:
 - an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
 - one or more output receptacles adapted to receive the currency bills after being processed;
 - a denominating unit adapted to acquire evaluation data from bills transported past the denominating unit, the denominating unit comprising at least one denomination sensor and at least one image scanner;
 - a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating unit, and to the one or more output receptacle;
 - a processor coupled to the denominating unit and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being programmed to calculate the total value of the stack of currency bills received into the input receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information; and
 - a currency dispensing module comprising:
 - one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
 - a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating unit;
 - an interface adapted to receive information specifying the total value of currency to be dispensed;
 - wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the specified total value of currency to be dispensed and wherein using the

evaluation data received from the denominating unit the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified total value.

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35. The combination desktop currency denominating machine and currency dispenser of claim 34, wherein the denomination sensor comprises a detector positioned to receive light reflected off of passing bills, and the detector is adapted to generate a characteristic information output signal in response to detected
10 characteristic information, the characteristic information output signal being electrically coupled to the processor; and

wherein the image scanner is adapted to scan each passing bill.

36. The combination desktop currency denominating machine and currency dispenser of claim 35, wherein the image scanner is adapted to image each bill, and
15 acquire replication data.

37. The combination desktop currency denominating machine and currency dispenser of claim 36, wherein the image scanner is adapted to acquire replication
20 data sufficient to replicate a full one-sided image of each bill.

38. The combination desktop currency denominating machine and currency dispenser of claim 36, wherein the image scanner is adapted to acquire replication data sufficient to replicate a portion of an image of each bill.

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39. The combination desktop currency denominating machine and currency dispenser of claim 38, wherein the replication data is electronically stored in a manner that allows the replication data to be searched and retrieved.

- 30 40. The combination desktop currency denominating machine and currency dispenser of claim 39, wherein the electronically stored replication data may be searched and retrieved if the bill imaged is later determined to be counterfeit.

41. The combination desktop currency denominating machine and currency dispenser of claim 35, wherein the transportation mechanisms transport bills at a rate in excess of 400 bills per minute.
- 5 42. The combination desktop currency denominating machine and currency dispenser of claim 35, wherein the transportation mechanisms transport bills at a rate of about 600 bills per minute.
- 10 43. The combination desktop currency denominating machine and currency dispenser of claim 34, further comprising a housing, wherein the currency denominating module, the currency dispensing module, and the processor are contained within the housing.
- 15 44. The combination desktop currency denominating machine and currency dispenser of claim 34, wherein the effective footprint of the housing is less than about 1 ½ square feet.
- 20 45. A combination desktop currency denominating and dispensing device comprising:
 a currency denominating module comprising:
 an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
 one or more output receptacles adapted to receive the currency bills after being processed;
 a denominating sensor adapted to acquire evaluation data from bills transported past the sensor;
 a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating sensor, and to the one or more output receptacles at a rate of at least 400 bills per minute;
- 25 30 a processor coupled to the denominating sensor and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being

programmed to calculate the total value of the stack of currency bills received into the input receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information at a rate of at least 400 bills per minute; and

- 5 a currency dispensing module comprising:
 - one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
 - a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism
- 10 upstream of the denominating sensor;
 - an interface adapted to receive information specifying the total value of currency to be dispensed;
 - wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the specified total value of currency to be dispensed and wherein using the evaluation data received from the denominating sensor the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified total value.

- 20 46. A combination desktop currency denominating and dispensing device comprising:
 - a currency denominating module comprising:
 - an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
 - one or more output receptacles adapted to receive the currency bills after being processed;
 - a denominating sensor adapted to acquire evaluation data from bills transported past the sensor;
 - 30 a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating sensor, and to the one or more output receptacles at a rate of at least 400 bills per minute;

- a processor coupled to the denominating sensor and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being
- 5 programmed to calculate the total value of the stack of currency bills received into the input receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information at a rate of at least 400 bills per minute; and
- 10 a currency dispensing module comprising:
- one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
- 15 a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating sensor;
- an interface adapted to receive information related to currency to be dispensed;
- wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the information related to currency to be dispensed and wherein using the evaluation data received from the denominating sensor the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified information related to currency to be dispensed.
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47. A combination desktop currency denominating and dispensing device comprising:
- a currency denominating module comprising:
- an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
- 30 one or more output receptacles adapted to receive the currency bills after being processed;

- a denominating sensor adapted to acquire evaluation data from bills transported past the sensor;
- a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating sensor, and to the one or more output receptacles at a rate of at least 400 bills per minute;
- a processor coupled to the denominating sensor and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being programmed to calculate the total value of the stack of currency bills received into the input receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information at a rate of at least 400 bills per minute; and
- a currency dispensing module comprising:
- one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
- a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating sensor;
- an interface adapted to receive information specifying currency to be dispensed;
- wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the specified currency to be dispensed and wherein using the evaluation data received from the denominating sensor the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified currency to be dispensed.
48. A combination desktop currency denominating and dispensing device comprising:
- a currency denominating module comprising:

- an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;
- one or more output receptacles adapted to receive the currency bills after being processed;
- 5 a denominating sensor adapted to acquire evaluation data from bills transported past the sensor;
- a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating sensor, and to the one or more output receptacles at a rate of at least 400 bills per minute;
- 10 a processor coupled to the denominating sensor and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if evaluation data associated with the currency bill satisfactorily compares with master denominating information, the processor further being programmed to calculate the total value of the stack of currency bills received into the
- 15 input receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information at a rate of at least 400 bills per minute; and
- a currency dispensing module comprising:
- one or more dispensing receptacles, each receptacle adapted to hold a
- 20 plurality of currency bills having the same denomination;
- a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating sensor;
- an interface adapted to receive currency dispensing information;
- 25 wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the currency dispensing information and wherein using the evaluation data received from the denominating sensor the processor verifies that
- 30 the total value of currency bills dispensed from the dispensing module to the one or more output receptacles equals the specified currency dispensing information.

49. The combination desktop currency denominating and dispensing device of claim 48 further comprising a housing, wherein the currency denominating module, the currency dispensing module, and the processor are contained within the housing.
- 5 50. The combination desktop currency denominating and dispensing device of claim 49 wherein the effective footprint of the housing is less than about 1 ½ square feet.
51. A currency processing system adapted to receive currency bills from a user, dispense bills to a user and denominate both bills received and bills dispensed, wherein the system comprises:
- an input receptacle adapted to receive a stack of currency bills;
- a plurality of dispensing receptacles adapted to contain stacks of currency bills to be dispensed, the stacks of currency bills contained in the dispensing receptacles being externally accessible to a user during normal operation;
- an output receptacle positioned to receive currency bills, and positioned to be easily accessible to a user;
- a transport mechanism adapted to transport bills individually from the input receptacle to the output receptacle, and to transport bills individually from the dispensing receptacle to the output receptacle;
- a sensor adapted to acquire evaluation data from bills being transported from the input receptacle and the dispensing receptacle to the output receptacle; and
- a processor coupled to the sensor adapted to perform a denomination evaluation of a bill based on the acquired evaluation data associated with the bill, whereby each bill received from a user may be subjected to a denomination test and each bill to be dispensed to a user may be subjected to a denomination test.
52. A combination desktop currency denominating and dispensing device comprising:
- 30 a currency denominating module comprising:
- an input receptacle adapted to receive a stack of a plurality of currency bills to be processed;

- one or more output receptacles adapted to receive the currency bills after being processed;
- a denominating unit adapted to acquire image data from bills transported past the denominating unit, the denominating unit comprising at least one
- 5 image scanner for obtaining an image of the bills for determining the denomination of the bills using the image;
- a main transport mechanism adapted to transport the bills, one at a time, from the input receptacle, past the denominating unit, and to the one or more output receptacle;
- 10 a processor coupled to the denominating unit and adapted to receive the evaluation data; the processor being programmed to determine the denomination of a currency bill if image data associated with the currency bill satisfactorily compares with master denominating information, the processor further being programmed to calculate the total value of the stack of currency bills received into the input
- 15 receptacle when the evaluation data of each bill in the stack satisfactorily compares with the master denominating information; and
- a currency dispensing module comprising:
- one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
- 20 a dispenser transport mechanism adapted to transport bills, one at a time, from the one or more dispensing receptacles to the main transport mechanism upstream of the denominating unit;
- an interface adapted to receive currency dispensing information;
- 25 wherein the processor is also coupled to the interface and adapted to control the dispenser transport mechanism so as to selectively transport the appropriate number of currency bills from the one or more dispensing receptacles to the main transport mechanism based on the currency dispensing information and wherein using the evaluation data received from the denominating unit the processor verifies that the total value of currency bills dispensed from the dispensing module to the one or more
- 30 output receptacles equals the specified currency dispensing information; and
- a housing, wherein the currency denominating module, the currency dispensing module, and the processor are contained within the housing, the housing

having an effective footprint of less than about 1 ½ square feet and the housing having a volume of less than about 12,000 cubic inches.

53. A method of depositing and dispensing currency using a desktop currency denominating and dispensing device comprising an input receptacle, a transport path, a single output receptacle, a processor, an interface, and one or more dispensing receptacles comprising the acts of:

- receiving a stack of U.S. bills having at least one of a plurality of U.S. bill denominations to be deposited in the input receptacle of the device;
- 10 transporting the bills received, one at a time, from the input receptacle along the transport path at a rate of at least 400 bills per minute;
- determining the denomination of the bills received including bills of a plurality of U.S. denominations at a rate in excess of 400 bills per minute;
- 15 delivering the bills received whose denominations have been determined including bills of a plurality of denominations to a single output receptacle;
- removing the bills whose denominations have been determined from the single output receptacle;
- 20 inputting a withdrawal request into the processor via the interface; dispensing at least one U.S. bill having at least one of a plurality of U.S. bill denominations to be dispensed to satisfy the withdrawal request from the one or more dispensing receptacles, each receptacle adapted to hold a plurality of currency bills having the same denomination;
- 25 transporting the at least one bill dispensed from the one or more dispensing receptacles along the transport path;
- determining the denomination of the at least one U.S. bill dispensed at a rate in excess of at least 400 bills per minute; and
- delivering to the single output receptacle the at least one U.S. bill dispensed.

30 54. A method of depositing and dispensing currency using a desktop document denominating and currency dispensing device comprising an input receptacle, a

- transport path, a single output receptacle, an image scanner, a processor, a controller, an interface, and one or more dispensing receptacles comprising the acts of:
- 5 receiving a stack of documents including U.S. bills having at least one of a plurality of U.S. bill denominations to be deposited in the input receptacle of the device;
- transporting the documents received, one at a time, from the input receptacle along the transport path at a rate of at least 400 documents per minute;
- scanning the documents with the image scanner;
- generating image data output signals in response to information scanned on 10 the documents;
- receiving image data output signals with the processor;
- determining the document type and value with the controller based on the image data output signals;
- delivering the documents received to a single output receptacle;
- 15 removing the documents from the single output receptacle;
- inputting a withdrawal request into the processor via the interface;
- dispensing at least one U.S. bill having at least one of a plurality of U.S. bill 20 denominations to be dispensed to satisfy the withdrawal request from the one or more dispensing receptacles; each receptacle adapted to hold a plurality of currency bills having the same denomination;
- transporting the at least one bill dispensed from the one or more dispensing receptacles along the transport path;
- determining the denomination of the at least one U.S. bill dispensed at a rate in excess of at least 400 bills per minute; and
- 25 delivering to the single output receptacle the at least one U.S. bill dispensed.

55. The method of claim 54 wherein the image data output signals are used for OCR.
- 30 56. The method of claim 54 wherein the image data output signals are used for ICR.

57. The method of claim 54 wherein the image data output signals are used for reading a bar code on the documents.

58. A vertically arranged combination desktop currency denominating and dispensing machine comprising:

a currency denominating module adapted to receive a stack of currency bills to be denominated and to denominate the received currency bills, wherein a transport mechanism transports bills individually from an input receptacle adapted to receive the stack of currency bills to one or more output receptacles; and

10 a dispenser retaining section adapted to store currency bills to be dispensed to the one or more output receptacles during a dispensing operation, the retaining section comprising one or more dispensing receptacles, each dispensing receptacle adapted to hold bills having a common denomination, wherein the dispenser retainer section is positioned above the currency denominating module and the dispensing receptacles are externally accessible to a user during normal operation of the machine.

59. A vertically arranged combination desktop currency denominating and dispensing machine comprising:

a currency denominating module adapted to receive a stack of currency bills to be denominated and to denominate the received currency bills, wherein a transport mechanism transports bills individually from an input receptacle adapted to receive the stack of currency bills to one or more output receptacles; and

20 a dispenser retaining section adapted to store currency bills to be dispensed to the one or more output receptacles during a dispensing operation, the retaining section comprising one or more dispensing receptacles, each dispensing receptacle adapted to hold bills having a common denomination, wherein the dispenser retainer section is positioned above the currency denominating module and the dispensing receptacles are covered by a barrier to deny a user access to the dispensing receptacles during normal operation of the machine.

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60. A currency processing system adapted to receive currency bills from a user, dispense bills to a user and denominate both bills received and bills dispensed, wherein the system comprises:

- an input receptacle adapted to receive a stack of currency bills;
a dispensing receptacle adapted to contain a stack of currency bills to be dispensed, the dispensing receptacle being externally accessible during normal operation;
- 5 an output receptacle positioned to receive currency bills, and positioned to be easily accessible to a user;
 a transport mechanism adapted to transport bills individually from the input receptacle to the output receptacle, and to transport bills individually from the dispensing receptacle to the output receptacle;
- 10 a sensor adapted to acquire evaluation data from bills being transported from the input receptacle and the dispensing receptacle to the output receptacle; and
 a processor coupled to the sensor adapted to perform a denomination evaluation of a bill based on the acquired evaluation data associated with the bill, whereby each bill received from a user may be subjected to a denomination test and
- 15 each bill to be dispensed to a user may be subjected to a denomination test.
61. A currency processing system adapted to receive currency bills from a user, dispense bills to a user and denominate both bills received and bills dispensed, wherein the system comprises:
- 20 an input receptacle adapted to receive a stack of currency bills;
 a dispensing receptacle adapted to contain a stack of currency bills to be dispensed, the dispensing receptacle having a barrier to prevent access to the dispensing receptacle during normal operation;
- 25 an output receptacle positioned to receive currency bills, and positioned to be easily accessible to a user;
 a transport mechanism adapted to transport bills individually from the input receptacle to the output receptacle, and to transport bills individually from the dispensing receptacle to the output receptacle;
- 30 a sensor adapted to acquire evaluation data from bills being transported from the input receptacle and the dispensing receptacle to the output receptacle; and
 a processor coupled to the sensor adapted to perform a denomination evaluation of a bill based on the acquired evaluation data associated with the bill,

whereby each bill received from a user may be subjected to a denomination test and each bill to be dispensed to a user may be subjected to a denomination test.